APPLICATION FOR UNITED STATES LETTERS PATENT

FOR

METHOD AND SYSTEM FOR ONLINE LIVE AUCTIONS

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CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation-in-part of a pending U.S. patent application entitled "Online Live Search Systems" on September 11, 2000, having a serial number __/_____, which is assigned to the same assignee as the present application and hereby incorporated by reference.

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates generally to the area of distributed virtual networks and more specifically to a method or system for providing live online auctions.

Description of the Related Art

United States Patent 3,581,072, which issued on March 25, 1971, describes one of the first computer driven auction-matching systems for fungible goods. This reference describes a pricing system where priced orders to buy are arranged in descending order by price and priced orders to sell are also arranged in descending order by price within each price range, with all orders being arranged in descending order by time of placement so the older orders are upper most. Further, all compatibly priced orders are then matched

starting with the highest price order to buy and the lowest price order to sell and proceeding sequentially until all compatibly priced pairs of orders have been matched. Ordering and matching types of actions are performed efficiently by computers with the outcome being controlled by pre-stored rule sets which designate the variable (i.e., price) to be optimized.

The era of the online auction would have to wait almost a quarter of a century for the emergence of eBay, Inc.. Founded in 1995, ebaY™ is the largest and most successful Web-based auction houses offering more than 4.5 million listings and 10 million registered users. The success of ebaY™ has resulted in a flood of similar ventures by numerous competitors, such as Amazon.com, seeking similar successes.

These online auctions in fact have no similarity with the traditional auctions in which an auction item is announced for bidding in front of a group of bidders in real time. These online auction sites act more or less as a broker that lists all kinds of auction items for bidding for a fixed period of time. The broker takes a cut from the bidding price after one of the auction items is gone. There are a number of disadvantages in such online auctions. First, there are no more person-to-person interactions, everything through a proxy server (i.e. the broker server), lacking of the real auction excitement. Second, often an auction item could not be appreciated by the bidders that come virtually from all over the world with varying culture backgrounds and interests, the start bidding price could be hardly justified in some cases.

What is needed is an auction system in which bidders share similar interest and the auction system permits live bidding among

the bidders. In addition, it would be desirable that the middle broker is no longer needed in such auction system.

SUMMARY OF THE INVENTION

The present invention relates to a method and system for providing live online auctions, particularly among a group of bidders having similar or same interests or in one or more virtual communities. According to one embodiment, the live online action platform or system is based on one or more virtual communities. An auction process starts in a first community that permits a member of a first virtual community to list an auctioned item for bidding. All members in the first virtual community can participate in the bidding and members in a second virtual community may participate in the bidding as well by becoming part of the first virtual community or through one of the members in the first virtual community.

According to another embodiment, the online auction system permits a first member of a first virtual community to access the directories and resources of other members in the first virtual community for auctioned items. Through a joint or gateway member, the first member may access the directories and resources of members in a second virtual community for the purpose of interacting in an online auction having items for sale and bids from both virtual communities. Additionally, either the second member or a manager for the second virtual community may establish restrictions and use conditions for the proxy access rights granted.

The virtual communities or groups are formed as a result of users identifying other users with similar information resources, similar interests, pre-existing relationships or other common characteristics. These communities or groups may be also formed as a result of users indicating a desire to join such a group, being

invited to join such a group or the groups may form as users discover common characteristics. This grouping may be representative of a first user having knowledge of how to contact a second user and means to contact the second user (such as contacting the second user through use of the Internet for example).

The present invention may be implemented as a system, a method, or a computer product, each yielding one or more of the following advantages or benefits. One of them is that the person-to-person interaction in the online actions is emphasized. Another one is the possible elimination of a middle broker. As a result, auction items are self-promoted and auctioned among one or more communities. Still another one is that auction items have high affinity with the background of the possible bidders so that the auction items are more appreciated.

The foregoing and other benefits, advantages, objects, and features of the invention will become more apparent from the following detailed description of the invention, which proceeds with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will be readily understood by the following detailed description in conjunction with the accompanying drawings, wherein like reference numerals designate like structural elements, and in which:

Figure 1 is a block diagram of a networked communications system that may be used to implement a method and system embodying the invention;

Figure 2 illustrates a representative user interface application (a browser application) associated with entering and maintaining

community membership information that may be used in conjunction with an embodiment of the present invention;

Figure 3 illustrates a representative file setup that may be used to segregate member files into a public directory and a private directory which may be used in conjunction with an embodiment of the present invention;

Figure 4 illustrates a representative user interface application (a browser application) associated with interacting with a community auction bulletin board that may be used in conjunction with an embodiment of the present invention;

Figure 5 illustrates a representative user interface application (a search utility) associated with a composite community email list which may be used in conjunction with an embodiment of the present invention;

Figure 6 illustrates a representative conceptualization of the relationship between a client member terminal device and a gateway member terminal device in conjunction with an embodiment of the present invention;

Figure 7 is flow diagram of the process associated with responding to a request for content from community and non-community members in accordance with an embodiment of the present invention; and

Figure 8 is flow diagram of the process associated with local processing of received content in accordance with an embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

The invention pertains to a method and system for providing a live online auction platform among bidders having similar interests. The invention may be advantageously employed for groups of users or virtual communities over the Internet. According to one embodiment, the live online action platform or system is based on one or more virtual communities. An auction process starts in a first community that permits a member of a first virtual community to list an auctioned item for bidding. All members in the first virtual community can participate in the bidding and members in a second virtual community may become members of the first virtual community to participate in the bidding as well or alternatively through one of the members in the first virtual community.

According to another embodiment, the online auction system permits a first member of a first virtual community to access the directories and resources of other members in the first virtual community for auctioned items. Through a joint or gateway member, the first member may access the directories and resources of members in a second virtual community for the purpose of interacting in an online auction having items for sale and bids from both virtual communities. Additionally, either the second member or a manager for the second virtual community may establish restrictions and use conditions for the proxy access rights granted.

Directory clients and directory servers resident on terminal devices associated with community members may facilitate this access using a content sharing protocol such as Lightweight Device Access Protocol (LDAP), DBMS protocol or other filesharing protocol such as Napster, Gnutella, HTTP, and an extension thereof. Additionally, the gateway access provided to the client member may

be selectively provided through a gateway member concurrently online or through a time sensitive mirror image of the gateway member's public files resident on a community server device.

Terminal devices, also referred to as communication devices herein, include but are not limited to personal computers, laptop computers, computer terminals, computer work stations, personal digital assistants, palm-sized computing devices and cellular telephones. Such devices typically have a user interface comprised of a display, a keyboard and a pointing device (e.g., a mouse, a trackball, a joystick, a navigation key-set or a touch-pad). Network interactions for these devices quite often involve some type of a browser (i.e., Netscape, Internet Explorer, Opera or StarOffice) or micrbrowser (i.e., a WAP compliant microbrowser).

The detailed description of the invention is presented largely in terms of procedures, steps, logic blocks, processing, and other symbolic representations that directly or indirectly resemble the operations of data processing devices coupled to networks. These process descriptions and representations are typically used by those skilled in the art to most effectively convey the substance of their work to others skilled in the art. Reference herein to "one embodiment" or "an embodiment" means that a particular feature, structure, or characteristic described in connection with the embodiment can be included in at least one embodiment of the invention. The appearances of the phrase "in one embodiment" in various places in the specification are not necessarily all referring to the same embodiment, nor are separate or alternative embodiments mutually exclusive of other embodiments. Further, the order of blocks in process flowcharts or diagrams representing one or more embodiments of the invention do not inherently indicate any particular order nor imply any limitations in the invention.

Referring now to the drawings, in which like numerals refer to like parts throughout the several views. **Figure 1** is a block diagram of a network communications system **100** that may be used to implement a method and system embodying the invention. Network communications system **100** generally includes one or more networks such as data network **104** (i.e., a TCP/IP network) and wireless network **108** (i.e., GSM, CDMA, TDMA, PHS wireless networks, etc.) that facilitate communications between a plurality of networked terminal devices as is illustrated by terminal devices **112**, **116**, **120**, **124** and **128**. Communications between devices serviced by data network **104** and wireless network **108** is facilitated through the use of wires gateway **106** (i.e., a WAP gateway).

The plurality of networked terminal devices may be arranged in virtual communities where the members share some common interest (i.e., music, sports, politics, finances) and community activities such as those activities related to online auctions. In the illustration provided in **Figure 1**, Virtual Community A is comprised of terminal devices **112**, **116** and **120** and Virtual Community B is comprised of terminal device **120**, **124** and **128**. Terminal device **120** is common to both Virtual Community A and Virtual Community B and sometimes referred to as a joint member or a gateway member.

Unless otherwise specifically stated, members of a community may interchangeably mean a computing device coupled to the community or a user thereof in communication with the community. According to one aspect of the present invention, a terminal device in Virtual Community A, such as terminal devices **112** or **116** or users thereof, typically do not have the access privilege to Virtual Community B. By requesting the access through terminal device **120**, terminal devices in Virtual Community A may gain access to the

resources in Virtual Community B, wherein terminal device **120** is a member of both communities A and B, referring to as a joint or gateway member herein.

According to one embodiment, the gateway member or the administrator for Virtual Community B may selectively control the level of access to the community resources and the conditions for the use of the resources. Community specific program applications running on a gateway member device may enforce the *use conditions* of community information by proxy community members (i.e., client devices accessing a community through the gateway member device). Additionally, a mirror of the gateway member's public files may be maintained on a remote server device (i.e., community server device **132** and associated storage **134**) that may be utilized to enable gateway activity when the gateway member is off-line.

A client terminal device (i.e., terminal devices **112** or **116**) may gain access to the access privileges of a gateway terminal device (i.e., terminal device **120**) through the use of a content sharing protocol such as Lightweight Device Access Protocol (LDAP). LDAP defines a message protocol that is used to facilitate an interaction between a directory server (i.e. terminal device **120**) and a directory client (i.e., terminal device **112**). LDAP agents are available for windows environments, UNIX environments and java environments. An example of a directory server that may be used with the present invention is an LDAP compliant server such as *Netscape's DIRECTORY SERVER*. One skilled in the art would realize that the same function may be obtained using a standard database management server (DBMS) such as is sold by IBM under the trademark DB2. The directory server can also be embodied by a

plurality of computers cooperating together and appearing as a single directory server.

In one embodiment, groups or communities are formed as a result of users identifying other users with similar information resources, similar interests, or other common characteristics. These groups may form as a result of users indicating a desire to join such a group, or the groups may form as users discover common characteristics. This grouping may be representative of a first user having knowledge of how to contact a second user and means to contact the second user (such as contacting the second user through use of the Internet for example). It will be appreciated that other methods of forming groups may also exist. US Application NO.:_____, "Online Live Search Systems" on September 11, by the inventors thereof, discloses a method and system for forming a community that can be used to implement the present invention.

In another embodiment, a trusted *matchmaking* application with broad access rights to public files could analyze the public files of a large group and recommend matches based on the analysis. For example, if there was a fan club for a particular interest area and there is an analyzed file with an indication of numerous references/links to that particular interest area then an invitation could be sent out to join a community through a gateway member.

Examples of community content which could be accessed includes but is not limited to auction items and bids and any associated information required to interact and complete transactions (i.e., community contact list, community member public files, community specific network applications, Uniform Resource Locators (member and community specific), dedicated communication and community bulletin boards).

Figures 2 illustrates a representative user interface application **200** (a browser application such as Netscape Navigator or Internet Explorer) associated with entering and maintaining community membership information which may be used in conjunction with an embodiment of the present invention. The membership interface application **200** is comprised of a control panel **204**, a member identification maintenance panel **208**, a file utility **212**, a community administrative utility **216** and other control elements (i.e., exit control element **220**). Control panel **204** is comprised of a plurality of application interface elements which provide access to the various application pages and utilities associated with a community interactions such as a membership application page (shown), access to a community calendar area, own community contact lists, access to applications pages for communities accessed through a gateway member, other community contact lists, and a community auction billboard.

Member identification maintenance panel **208** facilities the input and sharing of member identification and personal information. File utility **212** is a file sharing utility which facilitates the designation of dedicated individual member files and storage areas (or mirror copies thereof) for community sharing as will be described below. Community administrative utility **216** facilitates community registration and provides community administrative functions such as invitations. Through this application page, a new member can join an existing community, create a new one or an existing member can modify their personal information and designate files for sharing.

Figure 3 illustrates a representative file setup which may be used to segregate member files **300** into a public directory **308** and a private directory **340** which may be used in conjunction with an embodiment of the present invention. Designated member files may

be made available to other members of the user's own community only or may be made conditionally available to both community and community-proxy members with controls and use rules provided by the user or the user's community administrator. It is important to note at this point that the user's public files may be accessed directly or mirror copies of the user's public files may be accessed with these mirror images being resident on the user's terminal device or on a remote server device (i.e., community server device **132** of **Figure 1**).

Figure 4 illustrates a representative user interface application (a browser application such as Netscape Navigator or Internet Explorer) associated with interacting with a community online auction which may be used in conjunction with a preferred embodiment of the present invention. The auction interface application **400** is comprised of a control panel **404**, a member's *item for auction* panel **406**, a community auction panel **408** associated with the member's community, a proxy-community auction panel **410** associated with gateway members, an auction item utility **412** and a community administrative utility **416** and other control elements (i.e., exit control element **420**). Control panel **404** is comprised of a plurality of application interface elements which provide access to the various application pages and utilities associated with a community interactions such as a membership application page, access to a community calendar area, own community contact lists, access to applications pages for communities accessed through a gateway member, other community contact lists, and a community auction billboard.

The member's *item for auction* panel **406** provides the member with the current bid and contact buttons (i.e., email or phone) for bidders who have made bids on the member's items for

auction. Community auction panel **408** provides the member with information relating to auction items available from the other members of the member's community. Proxy-community auction panel **410** provides the member with information relating to auction items available from communities that are through gateway members. Auction item utility **412** provides functions that enable a user to add and manage the member's auction items. Community administrative utility **416** facilitates community registration and provides community administrative functions such as invitations. Through this application page, a new member can join an existing community, create a new one or an existing member can modify their personal information and designate files for sharing. The auction interface is presented for purposes of illustration and not limitation. The present invention may be applied to any auction environment where communities of members are merged using relationships with other members that are common to the merged communities.

As previously described, the sharing of content (i.e., directories, links, files etc.) between community members (i.e., client members and gateway members) may be carried in a Lightweight Device Access Protocol (LDAP) client-server environment. In LDAP client server environments global directories are generates from a distributed directories. The LDAP protocol is described in RFC 1777, 1959, 1960 and 2251 that are hereby incorporated by reference.

Figure 5 illustrates a representative user interface application **500** (a search utility) associated with a composite community email list which may be used in conjunction with an embodiment of the present invention. According to an embodiment of the present invention, when a client member forwards a request for content (i.e., auction items and bids) relating to the client's own community and any additional communities which are accessible through gateway

members then what the client member gets as a response is a global directory containing the requested information. In this example that information is comprised of email identifiers from Virtual community A and Virtual Community B. From the perspective of the client member the two virtual communities appear merged. It is important to note at this point that there may be restrictions applied to the content that is provided through a proxy entity. For instance, the email address for Robert Strum is not available to the client member because of an access restriction which may have been imposed by Mr. Strum or the administrator for Virtual Community B.

Figure 6 illustrates a representative conceptualization of the relationship between client member terminal device **616** (which may be client member terminal device **116** of **Figure 1**) and a gateway member terminal device **620** (which may be gateway member terminal device **120** of **Figure 1**) in conjunction with an embodiment of the present invention. Client member terminal device **616** and gateway member terminal device **620** both have member access rights (i.e., read and modify) to the content and resources of Virtual Community A **618**. Gateway member terminal device **620** also has member access rights (i.e., read and modify) to the content and resources of Virtual Community B **622**. If client member terminal device **616** requests proxy-member rights (i.e., read only) to the content and resources of Virtual Community B **622** through gateway member terminal device **620**, then client member terminal device **616** is the LDAP client and gateway member terminal device **620** is the LDAP server. It is important to note at this point that there may be use conditions and/or restrictions associated with content that client member terminal device **616** may access as a proxy-community member. Additionally, the content accessible to client member terminal device **616** may be a mirror image of the original

information which is accessible to gateway member terminal device **620**.

Figure 7 is flow diagram of the process **700** associated with responding to a request for content from community and non-community members in accordance with an embodiment of the present invention. At **704** a request is received for directories for available communities. At **708** a determination is made as to whether the requestor has direct/member access rights. If the requestor has direct access rights then they are added to the current active user group at **716** and the requested content and associated use conditions are retrieved at **720**. The retrieved content and associated use conditions are forwarded to the requesting party at **724**.

If the requestor does not have direct/member access rights then at **712** a determination is made as to whether the requestor has proxy member access rights. If the requestor has proxy member access rights then they are added to the current active user group at **716** and the requested content and associated use conditions are retrieved at **720**. The retrieved content and associated use conditions are forwarded to the requesting party at **730**. If the requestor does not have proxy member access rights then an access denied message is generated at **726** and forwarded to the requesting party at **730**.

Figure 8 is flow diagram of the process **800** associated with local processing of received content in accordance with an embodiment of the present invention. At **804** the requested directories and associated use conditions are received. At **808** the received content is registered with the resident applications on the subject terminal device. At **812** a determination is made as to

whether the received content may be used as required by the associated use conditions. If the use conditions are not violated then the received content/directories are made available.

The advantages of the invention are numerous. Different embodiments or implementations may yield one or more of the following advantages. One advantage of the present invention is that the members of the linked communities are in control of the rules and conditions governing interactions in the linked auction communities. Still another advantage of the present invention is community information can be segregated into public and non-public storage areas with item-level control of the information.

The many features and advantages of the present invention are apparent from the written description, and thus, it is intended by the appended claims to cover all such features and advantages of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation as illustrated and described. Hence, all suitable modifications and equivalents may be considered to fall within the scope of the invention.